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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,120	09/23/2005	Thomas Huck	022862-1065	4091

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EXAMINER	
DESAI, NAISHADH N	
ART UNIT	PAPER NUMBER
2834	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/551,120	HUCK ET AL.	
	Examiner	Art Unit	
	NAISHADH N. DESAI	2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 September 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 September 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/23/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 9/23/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lekeux et al (US 6191512).

3. As per independent claim 1:

Gear drive unit (Fig 1) with an electric drive motor (Fig 1,2) featuring an armature shaft (Fig 1 and Col 1 ll 58-67) and at least one housing part (Fig 1,4) accommodating the armature shaft and an electronic interface (Fig 1,3) to accommodate various plug-in modules (Fig 1,5), which can be inserted into the electronic interface in the insertion direction (Fig 1,10 and P), characterized in that the electronic interface features walls that are spaced apart from each other (Fig 1,5 and structure below element 9), which

walls form an opening (Fig 1 shows that the walls (supporting structure below element 9) form an opening where the circuit board (element 6) is attached) perpendicular to the armature shaft and an opening axial to the armature shaft (Fig 1 shows that the opening is perpendicular and in the axial direction of the shaft), wherein at least one first sealing surface (Fig 1,12) and guides (Fig 1,9,10 and P) are arranged on the walls along the insertion direction to seal various plug-in modules (Fig 1,5) vis-à-vis the at least one housing part.

4. As per dependent claim 2:

Gear drive unit according to Claim 1, characterized in that the electronic interface features at least a second sealing surface to seal various plug-in modules, wherein the at least two sealing surfaces are arranged offset at least partially with respect to the insertion direction (Fig 1,5 and P).

5. As per dependent claim 3:

Gear drive unit according to Claim 1, characterized in that at least the first sealing surface seals the plug-in modules at least to some extent radially to the insertion direction (Fig 1,5 and P).

6. As per dependent claim 4:

Gear drive unit according to Claim 1, characterized in that at least one housing part features a recess in the area of the electronic interface, into which a printed circuit

board of the plug-in module can be inserted tangentially or radially to the armature shaft (Col 1 ll 66-67 and Col 2 ll 1-15,29-34 and Fig 1).

7. As per dependent claim 5:

Gear drive unit according to Claim 1, characterized in that the second sealing surface is arranged essentially along the edge of the recess (Fig 1 shows a second sealing surface along the edge of a recess).

8. As per dependent claim 6:

Gear drive unit according to Claim 1, characterized in that the first sealing surface is arranged essentially along the edge of the openings (Fig 1,5 and 12).

9. As per dependent claim 7:

Gear drive unit according to Claim 1, characterized in that the guides (Fig 1,9) are arranged for pressing one of the seals (Fig 1,12 or 3) that is arranged on the plug-in module against the sealing surfaces (Fig 1,5 and 12) and/or for mechanically holding on the edge of the axial opening.

10. As per dependent claim 8:

Gear drive unit according to Claim 1, characterized in that the walls of the electronic interface is arranged conically in the insertion direction (Fig 1,P).

11. As per dependent claim 9:

Gear drive unit according to Claim 1, characterized in that locking means (Fig 1,10) are arranged on the electronic interface to lock with counter locking means (Fig 1,9) on the plug-in module (Fig 1,5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 10, 11 and $18_{(1\text{-}11)}$ are rejected under 35 U.S.C. 103(a) as being unpatentable over Lekeux et al (US 6191512) in view of Matsuyama et al (US 2004/0061391).

12. As per dependent claim 10:

Gear drive unit according to Claim 1, characterized in that the gear drive unit features a brush holder, on which an optional, particularly two-pin, plug is arranged for electric

contacting, which projects from the at least one housing part in the area of the electronic interface, which housing part is designed to be sealed in the area of the electronic interface (Col 2 ll 43-56).

Lekeux et al teaches the device as claimed above. Lekeux et al do not teach a two-pin plug projecting from the housing. Matsuyama et al teaches a motor with a brush holder and the use of a two-pin plug projecting away from the housing (Fig 15,115 and claim 8). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Lekeux et al to use the two-pin plug of Matsuyama et al. The motivation to do so would be that it would allow more flexibility for connecting the motor from different angles.

13. As per dependent claim 11:

Gear drive unit according to Claim 1, characterized in that at the first sealing surface is arranged in such a way that it does not collide with the optional plug that is formed on the brush holder and projects from the housing part (Fig 15 shows that element 115 is not colliding with the first sealing element as disclosed in claim 1 above).

Claims 12,14-17 and $18_{(12,14\text{-}17)}$ are rejected under 35 U.S.C. 103(a) as being unpatentable over Lekeux et al (US 6191512) in view of Matsuyama et al (US 2002/0079758).

14. As per independent claim 12:

Plug-in module (Fig 1,5) for use with a gear drive unit (Col 1 ll 58-61) with an electric drive motor (Fig 1) featuring an armature shaft (Col 1 ll 62-67) and at least one housing part (Fig 1,3 or 4) accommodating the armature shaft and an electronic interface (Fig 1) to accommodate the plug-in module (Fig 1,5), which can be inserted into the electronic interface in an insertion direction (Fig 1,5 and P), the electronic interface including walls that are spaced apart from each other (Fig 1,5 and structure below element 9), which walls form an opening, perpendicular to the armature shaft and an opening axial to the armature shaft (Fig 1 shows that the opening is perpendicular and in the axial direction of the shaft), wherein at least one first sealing surface (Fig 1,12) and guides are arranged on the walls along the insertion direction to seal the plug-in module with respect to the at least one housing part (Fig 1,9,10 and P), characterized in that the plug-in module features a seal, made of a thermoplastic elastomer, which can cooperate with the sealing surface in such a way that the at least one housing part is sealed in a watertight manner .

Lekeux et al teaches the device as claimed above. Lekeux et al do not teach the plug-in module to have a seal made of thermoplastic elastomer to form a water tight seal. Matsuyama et al teaches the use of elastomers to make a water tight seal (paragraphs [0034 and 0084]). It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Lekeux et al to use the water tight seal members made of elastomer. The motivation to do so would be that it would prevent dust, liquid from entering the housing (paragraphs [0034,0042 and 0084] Matsuyama et al).

15. As per dependent claim 14:

Plug-in module according to Claim 12, characterized by an electronic plug, whose plugging direction runs essentially axial to the armature shaft.

Matsuyama et al (in Fig 9) shows another plug in device which is plugged in essentially in the axial direction of the armature shaft.

16. As per dependent claim 15:

Plug-in module according to Claim 12, characterized by a jacket-like housing (Fig 9,4 of Matsuyama et al), which can cooperate with the one seal (Fig 9,15 of Matsuyama et al) with the second sealing surface of the gear drive unit (Fig 9,15a of Matsuyama et al) and can be sealed with another seal vis-à-vis a cover of the plug-in module that features a plug (Fig 9,15b and 33 of Matsuyama et al).

17. As per dependent claim 16:

Plug-in module according to Claim 12, characterized by a printed circuit board, on whose side facing the armature shaft at least parts of a speed detection device, in particular a Hall sensor system, are arranged (Figs 1-3A and paragraph [0056] of Matsuyama et al).

18. As per dependent claim 17:

Plug-in module according to Claim 12, characterized by two outside walls arranged at an angle to one another (Fig 1,below element 9 Lekeux et al), which close the openings

of the electronic interface (Fig 1,9 of Lekeux et al) and are connected to one another by means of a frame element (Fig 1,5b Lekeux et al) in such a way that both the printed circuit board (Fig 1,6 Lekeux et al) and the connections of the electronic plug (Fig 1,5 Lekeux et al) are freely accessible for their assembly.

19. As per dependent claim $18_{(1\text{-}12,14\text{-}17)}$:

System to electrically adjust parts in a motor vehicle that are arranged to be moveable, in particular window panes (Col 1 ll 5-13 of Lekeux et al, in which a gear drive unit with an electric drive motor featuring an armature shaft and at least one housing part accommodating the armature shaft (Col 1 ll 54-67 of Lekeux et al) and an electronic interface to accommodate various plug-in modules (Fig 1,3 and 5 of Lekeux et al), which can be inserted into the electronic interface in the insertion direction (Fig 1,P of Lekeux et al), characterized in that the electronic interface features walls that are spaced apart from each other (Fig 1,5 and structure below element 9 of Lekeux et al), which walls form an opening perpendicular to the armature shaft and an opening axial to the armature shaft (Fig 1 of Lekeux et al shows that the opening is perpendicular and in the axial direction of the shaft), wherein at least one first sealing surface (Fig 1,12 of Lekeux et al) and guides are arranged on the walls along the insertion direction to seal various plug-in modules (Fig 1,9,10 and P of Lekeux et al) vis-à-vis the at least one housing part and is alternatively combined with a plug-in module for use with a gear drive unit (Fig 1,3 and 5 of Lekeux et al) according to one of the preceding claims, characterized in that the plug-in module features a seal, made of a thermoplastic

elastomer in particular, which can cooperate with the first, second (Fig 9 of Matsuyama et al shows at least two sealing surfaces) or additional sealing surfaces in such a way that at least one housing part is sealed in a watertight manner (paragraphs [0034,0042 and 0084] Matsuyama et al).

Claims 13 and $18_{(13)}$ are rejected under 35 U.S.C. 103(a) as being unpatentable over Lekeux et al and Matsuyama et al (US 2002/0079758) as applied to claim 12 above, and further in view of Matsuyama et al (US 2004/0061391).

20. As per dependent claim 13:

Plug-in module according to Claim 12, characterized by an electronic plug, whose plugging direction runs essentially radial to the armature shaft.

Lekeux et al teaches the device as claimed above. Lekeux et al do not teach the plug-in module to have a seal made of thermoplastic elastomer to form a water tight seal. Matsuyama et al (US 2002/0079758) teaches the use of elastomers to make a water tight seal (paragraphs [0034 and 0084]). Matsuyama et al (US 2002/0079758) does not teach the plug to be in the radial direction of the armature shaft. Fig 15,115 of Matsuyama et al (US 2004/0061391) teaches a plug which is essentially arranged in the radial direction of the armature shaft. It would have been obvious to a person having ordinary skills in the art at the time the invention was made to modify the device of Lekeux et al and Matsuyama et al (US 2004/0061391) to arrange a plug in the radial direction of the armature shaft as disclosed by Matsuyama et al (US 2002/0079758). The motivation to do so would be that it would make access easier to the plug and allow

for more flexibility in mounting and servicing the device in a vehicle or other environments.

21. As per dependent claim $18_{(13)}$:

System to electrically adjust parts in a motor vehicle that are arranged to be moveable, in particular window panes (Col 1 ll 5-13 of Lekeux et al, in which a gear drive unit with an electric drive motor featuring an armature shaft and at least one housing part accommodating the armature shaft (Col 1 ll 54-67 of Lekeux et al) and an electronic interface to accommodate various plug-in modules (Fig 1,3 and 5 of Lekeux et al), which can be inserted into the electronic interface in the insertion direction (Fig 1,P of Lekeux et al), characterized in that the electronic interface features walls that are spaced apart from each other (Fig 1,5 and structure below element 9 of Lekeux et al), which walls form an opening perpendicular to the armature shaft and an opening axial to the armature shaft (Fig 1 of Lekeux et al shows that the opening is perpendicular and in the axial direction of the shaft), wherein at least one first sealing surface (Fig 1,12 of Lekeux et al) and guides are arranged on the walls along the insertion direction to seal various plug-in modules (Fig 1,9,10 and P of Lekeux et al) vis-à-vis the at least one housing part and is alternatively combined with a plug-in module for use with a gear drive unit (Fig 1,3 and 5 of Lekeux et al) according to one of the preceding claims, characterized in that the plug-in module features a seal, made of a thermoplastic elastomer in particular, which can cooperate with the first, second (Fig 9 of Matsuyama et al shows at least two sealing surfaces) or additional sealing surfaces in such a way

that at least one housing part is sealed in a watertight manner (paragraphs [0034,0042 and 0084] Matsuyama et al).

Conclusion

22. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892 for details.

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NAISHADH N. DESAI whose telephone number is (571)270-3038. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on (571) 272-2204. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Naishadh N Desai
Patent Examiner

/Darren Schuberg/
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